

Assessment Schedule – 2009**Mathematics: Solve straightforward number problems in context (90151)****Evidence Statement**

Question	Achievement	Achievement with Merit	Achievement with Excellence	
	Solve straightforward number problems in context.	Solve number problems in context involving manipulation, several steps or reversing processes.	Devise a strategy and solve a number problem.	
ONE (a)	Increase = \$0.90 $\% \text{ increase} = \frac{0.9}{11.2} \times 100 = 8.035$ $\approx 8\%$ Accept IMS and CAO			a = 1 of 1(a),1(b),1(c),1(d) m = 1 of 1(c), 1(d) e = 1(d) <u>Sufficiency for Q1:</u> A = 1 of code a 2A = 2 of code a M = 1 Code a AND 1 Code m E = 1 Code m AND 1 Code e
(b)	Other amount banked $= \$95 \div 5 \times 2 = \38 Accept IMS and CAO			
(c)	2 100 000	$\text{Number} = \$1.1382 \times 10^9 \div \542 $= 2\,100\,000$ Accept CAO		
(d)	Desired annual income after tax $52 \times \$580 = \$30\,160$	Income before tax = $\$30\,160 \div 0.8 = \$37\,700$	Annual income after tax = $52 \times \$580 = \$30\,160$ Income before tax = $\$30\,160 \div 0.8 = \$37\,700$ Amount Needed = $\$37\,700 \div 0.065 = \$580\,000$ <u>Clear strategy</u> that accounts for: <ul style="list-style-type: none"> • per yr • amount before tax • size of investment 	

TWO (a)	$1 - \frac{1}{5} - \frac{1}{3} = \frac{7}{15}$ and $7 \div 15 \times \$492 = \229.60 Accept IMS and CAO			a = 1 of 2(a), 2b(i), 2b(ii), 2b(iii) m = 1 of 2b(ii), 2b(iii)
(b)(i)	Interest = $0.043 \times \$600 = \25.80 Accept IMS and CAO			e = 2b(iii)
(ii)	\$680.78	Value after 3 yrs = $\$600 \times (1.043)^3 = \680.78 Must show working.		Sufficiency for Q2: A = 1 of code a 2A = 2 of code a M = 1 Code a AND 1 Code m E = 1 Code m AND 1 Code e
(iii)			$\$1357.73 \div (1.043)^5 = \$1099.997 \dots \approx \$1100$ Must show working, and round or truncate appropriately.	

Judgement Statement

Achievement	Achievement with Merit	Achievement with Excellence
Solve straightforward number problems in context. 2 A OR 1 2A	Solve number problems in context involving manipulation, several steps or reversing processes. 2 M OR 1 A + 1 E OR 2 A + 1 E	Devise a strategy and solve a number problem. 1 M + 1 E OR 2 E

Lower case **a**, **m**, **e** may be used throughout the paper to indicate contributing evidence for overall grades for questions. The circled upper case **A**, **M** and **E** grades shown at the end of each full question are used to make the final judgement.

* re Rounding / truncation

Where working is given to support / show how an answer was obtained, then the comment *accept any rounding / truncation*” applies.
When CAO applies, the answer presented needs to be “accurate enough” to count as evidence of appropriate processes having been used.

The following Mathematics-specific marking conventions may also have been used when marking this paper:

- Errors are circled.
- Omissions are indicated by a caret (^).
- **NS** may have been used when there was not sufficient evidence to award a grade.
- **CON** may have been used to indicate ‘consistency’ where an answer is obtained using a prior, but incorrect answer and **NC** if the answer is not consistent with wrong working.
- **CAO** is used when the ‘correct answer only’ is given and the assessment schedule indicates that more evidence was required.
- **#** may have been used when a correct answer is obtained but then further (unnecessary) working results in an incorrect final answer being offered.
- **RAWW** indicates right answer, wrong working.
- **R** for ‘rounding error’ and **PR** for ‘premature rounding’ resulting in a significant round-off error in the answer (if the question required evidence for rounding).
- **U** for incorrect or omitted units (if the question required evidence for units).
- **MEI** may have been used to indicate where a minor error has been made and ignored.

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- **MEI** may have been used to indicate where a minor error has been made and ignored.
- **TE** may have been used to indicate a transfer error made in a calculation.